WATER MANAGEMENT PLAN
for the
PEARL HARBOR GROUND WATER CONTROL AREA

State of Hawaii
DEPARTMENT OF LAND AND NATURAL RESOURCES
Division of Water and Land Development

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Honolulu, Hawaii
February 1984

GEORGE R. ARIYOSHI
Governor

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PREFACE

The Board of Land and Natural Resources assumed regulatory responsibilities for the control of ground water use in the Pearl Harbor Ground Water Basin on September 29, 1979. The Board, under authority of the State's Ground Water Use Law (Chapter 177, HRS) designated the Pearl Harbor area as a State Ground Water Control Area.

On May 23, 1980, the Board adopted a Water Management Plan specifying management objectives and policies for the Pearl Harbor Ground Water Control Area. The Plan, originally dated June 1980, is reproduced here for information and ready reference.

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Water Management Plan

Pearl Harbor Ground Water Control Area

A. Statement of Need

The use of ground waters of the Pearl Harbor basin has made a substantial and positive impact on the economic growth of Central Oahu, Honolulu and Waianae areas. Long and continued use of the supply at increasing rates has resulted in the lowering of water levels and increasing salinity of wells in the basin. This situation has led the State Board of Land and Natural Resources to designate the basin as a threatened ground water area subject to regulation by the Board in accordance with the Ground Water Use Act (Chapter 177, HRS) and its implementing rules and regulations, Regulation 9 of the Department of Land and Natural Resources. Under the statutory and regulatory provisions, existing withdrawals of ground water would be preserved through certification, and new or altered withdrawals would be allowed only after permits are obtained from the Department of Land and Natural Resources.

The purpose of the Water Management Plan is to outline short and long-range solutions to safeguard the ground water resources of the Pearl Harbor Ground Water Control Area and to guide day-to-day water management decisions on ground water development and use.

The Water Management Plan for the Pearl Harbor Ground Water Control Area shall consist of two parts: (1) the management objectives and policies of the Board of Land and Natural Resources, and (2) the approved Water Use Plans of the water purveyors and users.

B. Conditional Certification of Existing Uses

The Board of Land and Natural Resources at its meeting of April 11, 1980, certified the following ground water withdrawals for preservation subject to several conditions:

User	Preserved Use
Oahu Sugar Company	115.000 mgd
Honolulu Board of Water Supply	76.950 "
U.S. Navy	21.350 "
U.S. Army	5.455 "
Other private entities	5.658 "
Total	224.413 mgd

The conditions imposed by the Board are:

1. Submission by each user of a water use plan, meeting the management objectives and policies of the Board, within 3 months from the issuance of such objectives and policies by the Board in the State's water management plan.

2. Approval of the water use plans by the Board.

3. Review of the conditional certification within the next 3 years.

4. Reduction in the quantity of water conditionally certified in the event that such water is not being beneficially used as defined by law or that the water use plan is not being implemented effectively.

5. Adjustment in quantity, in the case of Oahu Sugar, upon the installation of a new and more accurate metering system, but in no event will said adjustment exceed the amount of the 1979 withdrawal as contained in the declared use attached to the submittal.

Final certification will occur within three years following the Board's detailed analysis and construction of the declared uses filed by the water users.

C. Sustainable Yield

The sustainable yield of the Pearl Harbor Ground Water Control Area--defined as the mean maximum water supply that may normally be pumped from the basin without unduly impairing the source utility--is estimated by the Department to be 225 million gallons per day. The basin's ground water supply situation is more fully described in the report "Recommendations for Ground Water Use Regulation", Circular C80 of the Department of Land and Natural Resources, dated February 1980.

D. Management Objective

The management objective of the Pearl Harbor Ground Water Control Area is to stop the continuing long-term shrinking of the basal aquifer. This is to be achieved by leveling off the decline in the basin's water level, at an equilibrium level by stabilizing pumpages from wells at a mean maximum quantity of 225 mgd.

E. Policies Governing the Use of Water in the Pearl Harbor Ground Water Control Area

To achieve the management objectives of the Pearl Harbor GWCA, it will be the regulatory policy of the Board to:

Policy 1: Maintain a mean maximum ground water withdrawal of 225 million gallons per day (mgd) in the Pearl Harbor GWCA, equal to the sustainable yield of the basin.

Policy 2: Require the submittal of a Water Use Plan for Board approval by each water purveyor and user within three months from the issuance of managment objectives and policies by the Board in the State's Water Management Plan.

Policy 3: Require as part of the Water Use Plan, the preparation of water shortage and emergency plans for implementation upon the Board's declaration of such conditions.

Policy 4: Accord final certification of preserved uses within three years from the Board's conditional certification rendered on April 11, 1980, reducing any user's quantity of water conditionally certified in the event that such water is not being beneficially used as defined by law or the water use plan is not being implemented effectively.

Policy 5: Require the installation of meters to accurately measure withdrawals at the source. Such installations to be provided in the user's Water Use Plan. (In the case of Oahu Sugar Co., the installation of a new and more accurate metering system will provide the basis for an adjustment in quantity of the preserved use conditionally certified by Board action on April 11, 1980, up to the limit of the 1979 withdrawal in the Company's declaration of that date.)

Policy 6: Require water users to formulate and implement water conservation measures including but not limited to a regular leakage control program and restructuring of water rate schedules to reduce consumption.

Policy 7: Allow increases in water use within the Pearl Harbor GWCA to the extent reductions in export of water to the Honolulu or Waianae Districts are achieved.

Policy 8: Allow wells to be pumped to the capacity of the pump installation, provided that the certified annual withdrawal for the user is not exceeded and there are no adverse effect to surrounding wells. Provide for maximum pumpage limits during long-term drought conditions in the Water Use Plan.

Policy 9 Provide for temporary excesses in pumpage due to emergencies such as water main breaks, reservoir failures, and contaminations.

Policy 10: Require the submission of accurate records of ground water withdrawal and use on a monthly basis and of any substantial changes in water development facilities, the quantity or rate of withdrawal, and the nature, time, or place of water use.

Policy 11: Encourage the development of alternative sources of water supply, including the importation of supplies from sources outside of the Pearl Harbor GWCA, the reuse of supplies, the reclamation of wastewater, particularly effluent from sewage treatment plants, the blending of brackish with fresh water to stretch the supply, and the desalting of brackish water.

Policy 12: Provide incentives for discontinuing the use of potable-quality water for golf courses and parks irrigation, highway landscaping, and other similar applications where water of lower quality would suffice.

Policy 13: Use the objectives and policies of the Hawaii State Plan and the State Water Resources Development Plan as a basis for determining public interest in the development, use, and allocation of the basin's ground water resources.

Policy 14: Establish a monitoring program to keep under surveillance ground water levels and storage, changes in water quality, recharge and spring discharges, patterns and amounts of pumping, and distribution of supplies.

Policy 15: Issue periodic reports to the water users and general public on the Pearl Harbor ground water situation.

Policy 16: When the Board has determined that the objectives of the Pearl Harbor GWCA have been attained, the Board may adjust the sustainable yield as it deems appropriate.

F. Water Use Plans

A coordinated approach involving the Board of Land and Natural Resources and the water users must be taken to effectively manage the Pearl Harbor GWCA. So that the Land Board can monitor and judge the development and use programs

for consistency with the management objectives and policy guidelines of the Board, water users would prepare water use plans describing their programs and actions in the Pearl Harbor GWCA. Such plans are to be submitted within three months from the date of acceptance of the Water Management Plan by the Board.

The Water Use Plan of each user will include, but not be limited to, the following essential elements:

1. Honolulu Board of Water Supply

   a. Location of points of ground water withdrawal, the rate of withdrawal, and the schedule of extractions.

   b. Current use of water categorized by type of use; if water is purveyed, the number of customers served.

   c. Mode of present pumping operations and means to stabilize daily and seasonal peaks.

   d. Current sources of supply other than ground water sources, and proposals, if any, to develop alternative supplemental sources of supply through the use of treated sewage effluent for irrigation, the exchange of non-potable quality water for potable-quality water now used, the blending of fresh with brackish water, or of supply through the use of imported water, the development of surface sources within the GWCA, the use of treated sewage effluent for irrigation, the exchange of non-potable quality water for potable-quality water now used, the blending of fresh with brackish water, or the desalting of brackish water.

   e. Water conservation measures under way or planned and results achieved or anticipated.

   f. Procedures to cope with water shortages and emergencies.

   g. Proposals to increase usage in GWCA through corresponding reduction in supplies presently exported.

   h. Implementation of leakage control program.

2. U.S. Navy

   a. Location of points of ground water withdrawal, the rate of withdrawal, and the schedule of extractions.

b. Current use of water categorized by type of use; if water is purveyed, the number of customers served.

c. Mode of present pumping operations and means to stabilize daily and seasonal peaks.

d. Current sources of supply other than ground water sources, and proposals, if any, to develop alternative supplemental sources of supply through the use of treated sewage effluent for irrigation, the exchange of non-potable quality water for potable-quality water now used, the blending of fresh with brackish water, or of supply through the use of imported water, the development of surface sources within the GWCA, the use of treated sewage effluent for irrigation, the exchange of non-potable quality water for potable-quality water now used, the blending of fresh with brackish water, or the desalting of brackish water.

e. Water conservation measures under way or planned and results achieved or anticipated.

f. Procedures to cope with water shortages and emergencies.

3. U.S. Army

a. Location of points of ground water withdrawal, the rate of withdrawal, and the schedule of extractions.

b. Current us of water categorized by type of use; if water is purveyed, the number of customers served.

c. Mode of present pumping operations and means to stabilize daily and seasonal peaks.

d. Current sources of supply other than ground water sources, and proposals, if any, to develop alternative supplemental sources of supply through the use of treated sewage effluent for irrigation, the exchange of non-potable quality water for potable-quality water now used, the blending of fresh with brackish water, or of supply through the use of imported water, the development of surface sources within the GWCA, the use of treated sewage effluent for irrigation, the exchange of non-potable quality water for potable-quality water now used, the blending of fresh with brackish water, or the desalting of brackish water.

e. Water conservation measures under way or planned and results achieved or anticipated.

f. Procedures to cope with water shortages and emergencies.

4. Oahu Sugar Company

a. Location of points of ground water withdrawal, the rate of withdrawal, and the schedule of extractions.

b. Current use of water categorized by type of use; if water is purveyed, the number of customers served.

c. Mode of present pumping operations and means to stabilize daily and seasonal peaks.

d. Current sources of supply other than ground water sources, and proposals, if any, to develop alternative supplemental sources of supply through the use of treated sewage effluent for irrigation, the exchange of non-potable quality water for potable-quality water now used, the blending of fresh with brackish water, or of supply through the use of imported water, the development of surface sources within the GWCA, the use of treated sewage effluent for irrigation, the exchange of non-potable quality water for potable-quality water now used, the blending of fresh with brackish water, or the desalting of brackish water.

e. Water conservation measures under way or planned and results achieved or anticipated.

f. Procedures to cope with water shortages and emergencies.

g. Program to meter withdrawals.

h. Means to monitor quality of water pumped.

i. Methods of irrigation utilized and future proposals for improvements in application efficiency.

j. Assessment of future demand for irrigation water.

5. Other Private Entities

a. Location of points of ground water withdrawal, the rate of withdrawal, and the schedule of extractions.

b. Current use of water categorized by type of use; if water is purveyed, the number of customers served.

c. Mode of present pumping operations and means to stabilize daily and seasonal peaks.

d. Current sources of supply other than ground water sources, and proposals, if any, to develop alternative supplemental sources of supply through the use of treated sewage effluent for irrigation, the exchange of non-potable quality water for potable-quality water now used, the blending of fresh with brackish water, or of supply through the use of imported water, the development of surface sources within the GWCA, the use of treated sewage effluent for irrigation, the exchange of non-potable quality water for potable-quality water now used, the blending of fresh with brackish water, or the desalting of brackish water.

e. Water conservation measures under way or planned and results achieved or anticipated.

f. Procedures to cope with water shortages and emergencies.